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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,353	07/26/2006	Kunihiko Horikawa	80481152	5720

466 7590 09/16/2008

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EXAMINER	
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ART UNIT	**PAPER NUMBER**
2627	

MAIL DATE	DELIVERY MODE
09/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/574,353	HORIKAWA ET AL.	
	Examiner	Art Unit	
	Kim-Kwok CHU	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 April 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Drawings

1. The drawings are objected to because the labels are expressed in Japanese. Applicant should submit all the drawings with English labels.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> *A person shall be entitled to a patent unless --*
> *(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

3. Claims 1-11 and 14-23 are rejected under 35 U.S.C. § 102(b) as being anticipated by Miyata (U.S. Patent 6,052,347).

4. Miyata teaches an information recording medium having all of the elements and means as recited in claims 1-6, 14, 16, 18, 20 and 22. For example, Miyata teaches the following:

(a) with respect to Claim 1, the information recording medium 1 (Fig. 11) comprising: a recording area 13 (Fig. 6; column 6, lines 13 and 14) to record therein record information (data) by irradiating laser light thereto (Fig. 11); and a recording control area 11, 15 (Fig. 6) to record therein control information (OPC) for controlling a laser power in accordance

with a recording position in the recording area 13 (Fig. 6; column 6, lines 10-17).

(b) with respect to Claim 2, the control information (OPC) indicates an association between information which represents the recording position (zone) in the recording area 13 and information which represents recording sensitivity (radius with respect to laser power) in the recording position (column 6, lines 18-30).

(c) with respect to Claim 3, the control information (OPC) indicates an association between information which represents the recording position (radius) in the recording area (zone) and information which represents an optimum laser power in the recording position (Figs. 5, 12 and 13; step 69).

(d) with respect to Claim 4, the control information (OPC) indicates a correlation relationship (Fig. 14) between the recording position (radius) in the recording area (zone) and an optimum laser power in the recording position (Figs. 12 and 13; step 69).

(e) with respect to Claim 5, an information recording apparatus (Fig. 11) comprising an optimizing device 39 (Fig. 12) for optimizing a laser power, on the basis of the control information (OPC) recorded in the recording control area 11, 15 of the information recording medium 1 (Figs. 6 and 11).

(f) with respect to Claim 6, the optimizing device 39 roughly estimates the control information (OPC) at a recording position (radius) for which the corresponding control information does not exist, on the basis of the control information recorded in the recording control area (Fig. 5).

(g) with respect to Claim 14, an information recording method (Fig. 13) comprising and an optimizing process of optimizing a laser power, on the basis of the control information recorded in the recording control area 13 of the information recording medium 1 (Figs. 11 and 13).

(h) with respect to Claim 16, the information recording/ reproducing apparatus comprising: a reproducing device 35 (read/write head) for reproducing the record information recorded on the information recording medium 1 (Figs. 11 and 12).

(i) with respect to Claim 18, the information recording/reproducing method comprising a reproducing device 35 (read/write head) for reproducing the record information recorded on the information recording medium 1 (Figs. 11 and 12).

(j) with respect to Claim 20, a computer program for record control to control a computer provided for the information recording apparatus to make the computer function as

at least one portion of said recording device and the optimizing device (column 9; lines 34-40; software coding).

(k) with respect to Claim 22, a computer program for record/reproducing control to control a computer provided for the information recording/reproducing apparatus, the computer program making the computer function as at least one portion of the information recording apparatus and the reproducing device(column 9; lines 34-40; software coding).

5. Miyata teaches an information recording medium having all of the elements and means as recited in claims 7-11, 15, 17, 19, 21 and 23. For example, Miyata teaches the following:

(a) with respect to Claim 7, an information recording apparatus comprising: a first recording device 35 (Fig. 11; read/write head) for irradiating laser light onto an information recording medium 1 and for recording record information (data) onto the information recording medium 1 (Fig. 6; area 13 is the data area); a control information generating device 39 (Fig. 12; column 8, lines 40-51) for obtaining an optimum laser power according to a recording position of the information recording medium 1 and for generating control information (OPC recorded in 11 and 15) which indicates an association between information which represents the recording position and information which represents the optimum laser power (Figs. 12 and 13); a second recording device 35 (Fig. 11; read/write head) for recording the control information generated by the control information generating device 39; and a controlling device 43 for controlling a laser power of the laser light irradiated onto the information recording medium 1, on the basis of the control information (OPC information) recorded by the second recording device (Figs. 12 and 13).

(b) with respect to Claim 8, the second recording device 35 records the control information (OPC) generated by the control information generating device 39, onto the information recording medium 1 (Fig. 6).

(c) with respect to Claim 9, the control information generating device 39 generates the control information (OPC), on the basis of a calibration value of a laser power obtained by performing running OPC (Optimum Recording Calibration) (Fig. 13).

(d) with respect to Claim 10, the control information generating device 39 generates the control information (OPC) corresponding to each predetermined area (radius/zone) of the information recording medium 1 (Figs. 5 and 7).

(e) with respect to Claim 11, the control information generating device 39 generates the control information (OPC) corresponding to a recording linear velocity of the information recording medium 1 (Fig. 10).

(f) with respect to Claim 17, the information recording/ reproducing apparatus comprising a reproducing device 35 (Figs. 11) for reproducing the record information recorded on the information recording medium 1 (Figs. 11 and 12).

(g) with respect to Claim 21, a computer program for record control to control a computer provided for the

information recording apparatus, the computer program making the computer function as at least one portion of the recording device, the control information generating device, the second recording device, and the controlling device (column 9, lines 34-40).

6. Method claims 15, 19 and 23 are drawn to the method of using the corresponding apparatus claimed in claims 7, 17 and 21. Therefore method claims 15, 19 and 23 correspond to apparatus claims 7, 17 and 21 and are rejected for the same reasons of anticipation as used above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> *(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

8. Claims 12 and 13 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Miyata (U.S. Patent 6,052,347) in view of Ito et al. (U.S. Publication US2003/0137909).

Miyata teaches optimum power control for recording/reproducing a recording medium very similar to that of the present invention. However, Miyata does not teach the following:

(a) with respect to Claim 12, the information recording medium comprises a plurality of recording layers, and the controlling device controls the laser power irradiated to another recording layer, on the basis of the control information obtained in one recording layer, in a case in which a target, to which the recording device performs recording operation, is changed from the one recording layer to the another recording layer out of the plurality of recording layers.

(b) with respect to Claim 13, the information recording medium comprises a plurality of recording layers, and said control information generating device generates the control information in another recording layer, on the basis of the control information obtained in one recording layer, in a case in which a target, to which the recording device performs recording operation, is changed from the one recording layer to the another recording layer out of the plurality of recording layers.

Ito teaches the following:

(a) an information recording medium 50 (Fig. 6) comprises a plurality of recording layers 51 and 52, and the controlling device 514 (Fig. 18) controls the laser power irradiated to another recording layer, on the basis of the control information (OPC stored in medium region 11) obtained in one recording layer, in a case in which a target, to which the recording device performs recording operation (Fig. 18), is changed from the one recording layer to the another recording layer out of the plurality of recording layers (Fig. 6; each layer has its OPC information 11).

(b) an information recording medium 50 (Fig. 6) comprises a plurality of recording layers 51 and 52, and the control information generating device generates the control information

(OPC stored in medium region 11) in another recording layer, on the basis of the control information obtained in one recording layer, in a case in which a target, to which the recording device performs recording operation (Fig. 18), is changed from the one recording layer to the another recording layer out of the plurality of recording layers (Fig. 6; each layer has its OPC information 11).

Although Miyata does not teach that the optimum power control is used on a multi-layer recording medium, for increasing the storage capacity, it would have been obvious to one of ordinary skill in the art to use a two layers recording medium such as Ito's as Miyata's recording medium, and furthermore, it would have been obvious to one of ordinary skill in the art to store OPC information in a recording medium such as Miyata's in each recording layer of Ito's two layered recording medium, because each recording layer has its OPC information corresponding to its information position/radius.

Related Prior Art

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Matsumoto (2002/0105874) is pertinent because Matsumoto teaches a computer program which contains steps of executing optimum laser power control.

Nakano (2002/0136122) is pertinent because Nakano teaches a two layered recording medium having optimum laser power control.

10. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kim CHU whose telephone number is (571) 272-7585 between 9:30 am to 6:00 pm, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen, can be reached on (571) 272-7579.

The fax number for the organization where this application or proceeding is assigned is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9191 (toll free).

/Kim-Kwok CHU/

Examiner AU2627

September 8, 2008

(571) 272-7585

/HOA T NGUYEN/

Supervisory Patent Examiner, Art Unit 2627